

Claims

1. A gas or like substance infusing structure for a centrifugal pressurization pump comprising a drum-shaped case (4) in which an intake port (2) and a discharge port (3) are formed, and to which is installed an impeller wheel (5) formed of multiple radially disposed impeller vanes (19); a compression face (36) defining a narrowing compression chamber (33) opposing the impeller vanes (19) from the intake port (2) side facing the impeller wheel (5); and a pressure block (16) on which is formed a pressure divider wall (35) that prevents the leakage of fluid from within impeller chambers (27) formed between the sides of impeller vanes 19, wherein

the fluid entering the centrifugal pressurization pump from the intake port (2) is pressurized within a pump chamber (9) formed by the impeller wheel (5) and pressure block (16) and discharged through the discharge port (3),

and a gas infusion unit (6) supplies a gas to the intake port (2) based on increased fluid pressure at the discharge port (3).

2. The gas or like substance infusing structure for a centrifugal pressurization pump according to the first claim wherein a constricting device (70) is provided within the discharge duct (20) which connects to the discharge port (3), said constricting device having the purpose of increasing the fluid pressure within the pump chamber (9).

3. The gas or like substance infusing structure for a centrifugal pressurization pump according to the first and second claims wherein a relief valve (75) is installed to the discharge duct (20) to prevent fluid pressure within the pump chamber (9) from rising above a predetermined level.

4. The gas or like substance infusing structure for a centrifugal pressurization pump according to the first, second, and third claims wherein a pressure differential ridge (39) is formed on the compression face (36) that extends from the inlet port (2) to the pressure

divider wall (35), said pressure differential ridge being formed as an acutely inclined partial surface that diverts the flow of fluid and gas toward the impeller vanes (19).